Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

    1-28.   Canceled.

    29.   (Currently Amended) A mobile communication system comprising a wireless apparatus including multipath timing detecting means for detecting a plurality of multipath timings in a received signal using a known signal, wherein:

    the wireless apparatus comprises channel vector estimating means for estimating channel vectors according to the multi path timings detected by the multipath timing detecting means; channel matrix generating means for arranging the channel vectors estimated by the channel vector estimating means, in a preset method according to the multipath timings, to thereby generate a channel matrix; weight calculating means for calculating a filter weight using the channel matrix generated by the channel matrix generating means, and one or more equalizers for equalizing received signals using the filter weight calculated by the weight calculating means;

    the channel vector estimating means estimates the channel vectors at the multipath timings and a number of channel vectors in the neighborhood of each of the multipath timings; and

    the channel ~~path~~ matrix generating means generates the channel matrix using the channel vectors at each of the multipath timings and the number of channel vectors in the neighborhood of the multipath timings.

    30.   (Previously Presented) A mobile communication system according to claim 29, wherein the number of channel vectors in the neighborhood of the multipath timings is an integer equal to or more than one.

    31.   (Previously Presented) A mobile communication system according to claim 29, wherein the channel matrix generating means further generates the channel matrix using the channel vectors at the multipath timings, the number of channel vectors in the neighborhood of each of the multipath timings, and zero.

32.   (Currently Amended) A mobile communication system according to claim 29, further comprising:

~~equalizers for equalizing received signals; and~~

transmission path state estimating means for estimating a channel state according to the received signals, judging means for judging, according to the channel state estimated by the channel state estimating means, whether equalization by each equalizer is required for a channel condition; and selecting means for operating each equalizer to equalize the received signals if the judging means determines that the equalization by each equalizer is required for the channel condition, and suppressing the equalization for the received signals if the judging means determines that the equalization by each equalizer is not required for the channel condition.

33.   (Previously Presented) A mobile communication system according to claim 32, wherein the channel state estimating means estimates at least one of a signal to interference power ratio, a signal to noise power ratio, a signal to noise interference power ratio, and noise; and

the judging means determines that the equalization by each equalizer is required for the channel condition if the estimated value from the channel state estimating means is more than a predetermined value, and determines that the equalization by each equalizer is not required for the channel condition if the estimated value from the channel state estimating means is less than the predetermined value.

34.   (Currently Amended) A mobile communication system according to claim 33, wherein:

the channel state estimating means estimates at least one of a multipath number, a multipath interval, and a delay deviation; and

the judging means determines, according to the estimated value ~~form~~ from the channel state estimating means, whether the equalization by each equalizer is required for the channel condition.

35.   (Currently Amended) A mobile communication system according to one of claim 29, wherein ~~further comprising:~~

~~equalizers for equalizing received signals and multipath timing detecting means for detecting a plurality of multipath timings in a received signal using a known signal; and~~

the wireless apparatus comprises channel judging means for judging, according to the multipath timings detected by the multipath timing detecting means and based on a multipath state, whether equalization by each equalizer is required for the channel condition; and selecting means for operating each equalizer to equalize the received signals if the judging means determines that the equalization by each equalizer is required for the channel condition, and suppressing the equalization for the received signals if the judging means determines that the equalization by each equalizer is not required for the channel condition.

36.   (Previously Presented) A mobile communication system according to claim 35, wherein the channel judging means determines whether equalization by each equalizer is required for the channel condition, according to a criterion whether there exists a plurality of multipaths and whether an interval of the multipath is equal to or less than a fixed value.

37.   (Currently Amended) A mobile communication system comprising a wireless apparatus including multipath timing detecting means for detecting a plurality of multipath timings in a received signal using a known signal and conducting communication using a Code Division Multiple Access (CDMA), wherein:

the wireless apparatus comprises channel vector estimating means for estimating channel vectors according to the multipath timings detected by the multipath timing detecting means; channel matrix generating means for arranging the channel vectors estimated by the channel vector estimating means, in a preset method according to the multipath timings, to thereby generate a channel matrix; weight calculating means for calculating a filter weight using the channel matrix generated by the channel matrix generating means, one or more equalizers for equalizing received signals using the filter weight calculated by the weight calculating means, and finger rake means for conducting reception according to the multipath timings detected by the multipath timing detecting means; and

the channel vector estimating means estimates <u>the</u> channel vectors of the multipath timings and a number of channel vectors in the neighborhood of each of the multipath timings; and

the channel matrix generating means generates the channel matrix using the channel vectors of the multipath timings and the number of channel vectors in the neighborhood of each of the multipath timings.

38.   (Previously Presented) A mobile communication system according to claim 37, characterized in that the number of channel vectors in the neighborhood of the multipath timings is an integer equal to or more than one.

39.   (Previously Presented) A mobile communication system according to claim 37, wherein the channel matrix generating means further generates the channel matrix using the channel vectors at the multipath timings, the number of channel vectors in the neighborhood of each of the multipath timings, and zero.

40.   (Currently Amended) A mobile communication system according to claim 37, further comprising:

~~equalizers for equalizing received signals and conducting communication using a Code Division Multiple Access (CDMA); and~~

channel state estimating means for estimating a channel state according to the received signals, judging means for judging, according to the channel state estimated by the channel state estimating means, whether equalization by each equalizer is required for a channel condition; and selecting means for operating each equalizer to equalize the received signals if the judging means determines that the equalization by each equalizer is required for the propagation channel path, and making the received signals pass finger rake means to thereby suppress the equalization by each equalizer.

41.   (Previously Presented) A mobile communication system according to claim 40, wherein:

the channel state estimating means estimates at least one of a signal to interference power ratio, a signal to noise power ratio, a signal to noise interference power ratio, and noise; and

the judging means determines that the equalization by each equalizer is required for the channel condition if the estimated value from the channel state estimating means is more

than a predetermined value, and determines that the equalization by each equalizer is not required for the channel condition if the estimated value from the channel state estimating means is less than the predetermined value.

42.   (Previously Presented) A mobile communication system according to claim 40, wherein:

the channel state estimating means estimates at least one of a multipath number, a multipath interval, and a delay deviation; and

the judging means determines, according to the estimated value from the channel state estimating means, whether the equalization by each equalizer is required for the channel condition.

43.   (Currently Amended) A mobile communication system according to claim 37, further comprising:

~~equalizers for equalizing received signals and multipath timing detecting means for detecting a plurality of multipath timings in a received signal using a known signal and conducting communication using a Code Division Multiple Access (CDMA); and~~

transmission path judging means for judging, according to the multipath timings detected by the multipath timing detecting means, whether equalization by each equalizer is required for the channel condition; and selecting means for operating each equalizer to equalize the received signals if the judging means determines that the equalization by each equalizer is required for the channel condition, and making the received signals pass finger rake means to ~~suppressing~~ <u>suppress</u> the equalization by each equalizer.

44.   (Currently Amended) A mobile communication system according to claim 37, further comprising:

~~equalizers for equalizing received signals and conducting communication using a Code Division Multiple Access (CDMA), and~~

channel judging means for judging, according to a criterion that at least the number of codes to be multiplexed is equal to or more than a fixed value, whether equalization by each equalizer is required for the channel condition; and selecting means for operating each equalizer to equalize the received signals if the judging means determines that the

equalization by each equalizer is required for the channel condition, and making the received signals pass finger rake means to ~~suppressing~~ suppress the equalization by each equalizer.

45.   (Currently Amended) A wireless apparatus including multipath timing detecting means for detecting a plurality of multipath timings in a received signal using a known signal, comprising:

channel vector estimating means for estimating channel vectors according to the multipath timings detected by the multipath timing detecting means; channel matrix generating means for arranging the channel vectors estimated by the channel vector estimating means, in a preset method according to the multipath timings, to thereby generate a channel matrix; weight calculating means for calculating a filter weight using the channel matrix generated by the channel matrix generating means, and one or more equalizers for equalizing received signals using the filter weight calculated by the weight calculating means, wherein:

the channel vector estimating means estimates <u>the</u> channel vectors at the multipath timings and a number of channel vectors in the neighborhood of each of the multipath timings; and

the channel matrix generating means generates the channel matrix using the channel vectors at each of the multipath timings and the number of channel vectors in the neighborhood of the multipath timings.

46.   (Previously Presented) A mobile communication system according to claim 45, wherein the number of channel vectors in the neighborhood of the multipath timings is an integer equal to or more than one.

47.   (Previously Presented) A mobile communication system according to claim 45, wherein the channel matrix generating means further generates a channel matrix using the channel vectors at the multipath timings, the number of channel vectors in the neighborhood of each of the multipath timings, and zero.

48.   (Currently Amended) A wireless apparatus according to claim 45, further comprising:

~~equalizers for equalizing received signals; and~~

channel state estimating means for estimating a channel state according to the received signals, judging means for judging, according to the channel state estimated by the channel state estimating means, whether equalization by each equalizer is required for a channel condition; and selecting means for operating each equalizer to equalize the received signals if the judging means determines that the equalization by each equalizer is required for the channel condition, and suppressing the equalization for the received signals if the judging means determines that the equalization by each equalizer is not required for the channel condition.

49.   (Previously Presented) A wireless apparatus according to claim 48, wherein:

the channel state estimating means estimates at least one of a signal to interference power ratio, a signal to noise power ratio, a signal to noise interference power ratio, and noise; and

the judging means determines that the equalization by each equalizer is required for the channel condition if the estimated value from the channel state estimating means is more than a predetermined value, and determines that the equalization by each equalizer is not required for the channel condition if the estimated value from the channel state estimating means is less than the predetermined value.

50.   (Previously Presented) A wireless apparatus according to claim 48, wherein:

the channel state estimating means estimates at least one of a multipath number, a multipath interval, and a delay deviation; and

the judging means determines, according to the estimated value from the channel state estimating means, whether the equalization by each equalizer is required for the channel condition.

51.   (Currently Amended) A wireless apparatus according to claim 45, further comprising:

~~equalizers for equalizing received signals and multipath timing detecting means for detecting a plurality of multipath timings in a received signal using a known signal; and~~

channel judging means for judging, according to the multipath timings detected by the multipath timing detecting means and based on a multipath state, whether equalization by each equalizer is required for a channel condition; and selecting means for operating each equalizer to equalize the received signals if the judging means determines that the equalization by each equalizer is required for the channel condition, and suppressing the equalization for the received signals if the judging means determines that the equalization by each equalizer is not required for the channel condition.

52.   (Previously Presented) A wireless apparatus according to claim 51, wherein the channel judging means determines whether equalization by each equalizer is required for the channel condition, according to a criterion whether there exists a plurality of multipaths or whether an interval of the multipath is equal to or less than a fixed value.

53.   (Currently Amended) A wireless apparatus comprising multipath timing detecting means for detecting multipath timings in a received signal using a known signal and conducting communication using a Code Division Multiple Access (CDMA), comprising:

channel vector estimating means for estimating a channel vector according to the multipath timings detected by the multipath timing detecting means; channel matrix generating means for arranging the channel vectors estimated by the channel vector estimating means, in a preset method according to the multipath timings, to thereby generate a channel matrix; weight calculating means for calculating a filter weight using the channel matrix generated by the channel matrix generating means, one or more equalizers for equalizing received signals using the filter weight calculated by the weight calculating means, and finger rake means for conducting reception according to the multipath timings detected by the multipath timing detecting means; wherein

the channel vector estimating means estimates the channel vectors of the multipath timings and the number of channel vectors in the neighborhood of each of the multipath timings; and

the channel matrix generating means generates the channel matrix using the channel vectors of the multipath timings and the number of channel vectors in the neighborhood of each of the multipath timings.

54.   (Previously Presented) A wireless apparatus according to claim 53, wherein the number of channel vectors in the neighborhood of the multipath timings is an integer equal to or more than one.

55.   (Previously Presented) A wireless apparatus according to claim 54, wherein the channel matrix generating means further generates a channel matrix using the channel vectors at the multipath timings, the number of channel vectors in the neighborhood of the multipath timings, and zero.

56.   (Currently Amended) A wireless apparatus according to claim 53, further comprising:
~~equalizers for equalizing received signals and conducting communication using a Code Division Multiple Access (CDMA); and~~
channel state estimating means for estimating a channel state according to the received signals, judging means for judging, according to the channel state estimated by the channel state estimating means, whether equalization by each equalizer is required for a channel condition; and selecting means for operating each equalizer to equalize the received signals if the judging means determines that the equalization by each equalizer is required for the channel condition, and making the received signals pass finger rake means to thereby suppress the equalization by each equalizer.

57.   (Previously Presented) A wireless apparatus according to claim 56, wherein:
the channel state estimating means estimates at least one of a signal to interference power ratio, a signal to noise power ratio, a signal to noise interference power ratio, and noise; and
the judging means determines that the equalization by each equalizer is required for a channel condition if the estimated value from the channel state estimating means is more than a predetermined value, and determines that the equalization by each equalizer is not required

for the channel condition if the estimated value from the channel state estimating means is less than the predetermined value.

58.   (Currently Amended) A wireless apparatus according to claim 53, wherein:

the channel state estimating means estimates at least one of a multipath number, a multipath interval, and a delay deviation; and

the judging means determines, according to the estimated value from the channel state estimating means, whether the equalization by each equalizer is required for the channel condition.

59.   (Currently Amended) A wireless apparatus according to claim 53, further comprising:

~~equalizers for equalizing received signals and multipath timing detecting means for detecting a plurality of multipath timings in a received signal using a known signal and conducting communication using a Code Division Multiple Access (CDMA); and~~

channel judging means for judging, according to the multipath timings detected by the multipath timing detecting means, whether equalization by each equalizer is required for the channel condition; and selecting means for operating each equalizer to equalize the received signals if the judging means determines that the equalization by each equalizer is required for the channel condition, and making the received signals pass finger rake means to ~~suppressing~~ suppress the equalization by each equalizer.

60.   (Currently Amended) A wireless apparatus according to claim 53, further comprising:

~~equalizers for equalizing received signals and conducting communication using a Code Division Multiple Access (CDMA); and~~

channel judging means for judging, according to a criterion that at least the number of codes to be multiplexed is equal to or more than a fixed value, whether equalization by each equalizer is required for the channel condition; and selecting means for operating each equalizer to equalize the received signals if the judging means determines that the equalization by each equalizer is required for the channel condition, and making the received signals pass finger rake means to ~~suppressing~~ suppress the equalization by each equalizer.